



Case Report

Dermoid Cyst in the Intermandibular Space of a 3-Year-Old Thoroughbred Gelding: A Case Report



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ABSTRACT

Soft tissue swelling located in the intermandibular space is very common in horses and presents a significant diagnostic challenge. Although the possible etiologies of intermandibular swelling are many, dermoid cysts are rarely included within the differential diagnoses list. This may be due to their low prevalence and to the lack of English written literature reporting dermoid cysts in this location in horses. This is the first report describing the clinical signs, diagnosis, and management of a dermoid cyst arising in the intermandibular space of a Thoroughbred horse. In this case, an enlarging soft tissue mass located in the intermandibular space was diagnosed as a dermoid cyst following complete subcutaneous surgical excision and histopathology.

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Soft tissue masses, palpable or visible on the skin surface, are a most common finding in horses regardless of their breed or age. Common causes include neoplasias or congenital defects, trauma, infection, foreign body reaction, or hypersensitivity [1–4]. Often, location of the soft tissue mass on the body plays a key role in the elaboration of the differential diagnoses list.

Diagnosis and treatment of masses in the intermandibular space can be especially challenging because of the anatomic complexity of this area; which includes large lymph nodes, salivary glands and ducts, nerves, and large blood vessels [5]. Furthermore, swelling in the intermandibular space could also be caused by disorders within the buccal cavity or involving the mandible or the teeth roots [6].

The clinical features of the soft tissue masses are important for guiding the choice of diagnostic modality for

further characterization. Although imaging findings, cytology, or culture results may be sufficient to differentiate the nature of the masses, histopathology is sometimes required for definitive diagnosis.

A case of dermoid cyst arising in the intermandibular space of a 3-year-old Thoroughbred gelding is reported here. To the author's knowledge, dermoid cysts located in the intermandibular space of a horse have not been previously reported in English.

1. Case Description

1.1. History

A 3-year-old Thoroughbred gelding presented to the referring veterinarian for evaluation of a mass in the intermandibular space. The mass interfered with tack and had a poor cosmetic appearance. The owner reported that the mass had been present for approximately 2 years and had progressively grown in size.

The referring veterinarian aspirated the mass and obtained a small amount of dark brown fluid. Cytologic

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analysis of this fluid was not performed. In addition, digital radiographs of the area were taken and revealed no bone involvement or calcification of the mass. Because of persistence of the mass after aspiration, the gelding was referred to the Veterinary Teaching Hospital at Washington State University for further evaluation and treatment.

1.2. Clinical Findings

On presentation, the gelding weighed 544 kg and had a body condition score of 5 on a scale of 1 to 9 [7]. He was bright, alert, and responsive with physical parameters within normal limits. Food and water intake were normal. A rounded mass in the rostral third of the intermandibular space, approximately 6 cm in length, was identified (Fig. 1). On palpation, the mass felt firm; however, when pressure was applied, it was possible to indent it. The overlying skin and hair were normal. The skin moved freely and independently over the mass. Palpation of the mass did not cause the horse to exhibit signs of discomfort. There was no heat, edema, or discharge associated with the mass. An PO examination was performed, and no abnormalities were detected.

Given the soft nature of the mass, ultrasonographic examination was performed to provide further information on the character, internal appearance, and extent of the lesion. This revealed a large, round, well-defined, heterogeneous mass, measuring approximately 6 cm in depth that occupied the intermandibular space. There was a small amount of anechoic fluid at the ventral aspect. The surrounding musculature was within normal limits (Fig. 2). The structures deep to the mass, including the tongue, moved independently to the mass.

Based on the information obtained from the history, physical examination, and ultrasonography evaluation of the intermandibular space, definitive diagnosis of the mass was not achieved. Hence, because of the encapsulation of the mass seen on ultrasound along with the lack of bone involvement and a 2-year history of progressive increase in size, excisional biopsy of the mass was elected.



Fig. 1. Photograph demonstrating the soft tissue mass in the intermandibular space.

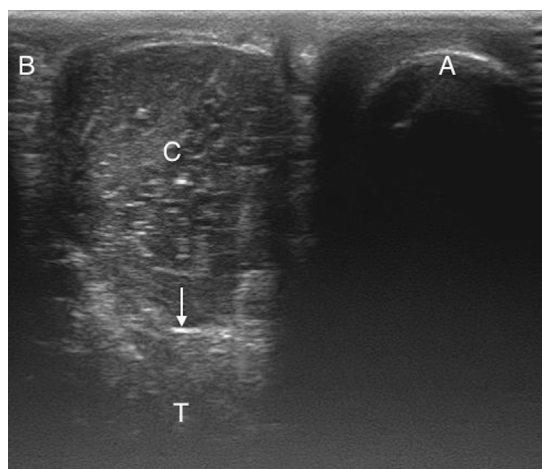


Fig. 2. Transverse ultrasonographic view of the rostral 1/3 of the intermandibular space demonstrating the well-demarcated mass (C) and its proximity to the tongue margin (T). For reference, the left (A) and right mandibles (B) are marked. The echogenic interface seen on midline represents air within the oral cavity (arrow).

1.3. Treatment and Outcome

Potassium penicillin (22,000 iu/kg bwt, i.v. q 6 hours), gentamicin sulfate (6.6 mg/kg bwt, i.v. q 24 hours), and phenylbutazone (2.2 mg/kg bwt, i.v. q 12 hours) were administered 1 hour before surgery and continued for 24 hours.

The horse was sedated with xylazine hydrochloride (HCl) (1.1 mg/kg bwt i.v) and butorphanol (0.02 mg/kg bwt i.v), and general anesthesia was induced with a combination of ketamine HCl (2 mg/kg bwt i.v) and midazolam (0.05 mg/kg bwt i.v) and maintained with guaifenesin-xylazine HCl-ketamine HCl via continuous rate infusion, titrated to effect. The horse was placed in dorsal recumbency, and the intermandibular space was prepared for aseptic surgery.

A 10-cm straight skin incision was made with a #15 scalpel blade over the mass. Metzenbaum scissors were then used to bluntly dissect the mass completely from the surrounding subcutaneous tissue. The mass was submitted for histopathologic evaluation to the Washington Animal Disease Diagnostic Laboratory.

The resulting dead space was filled with sterile gauze (McKesson Medi-Pak Performance, 4" × 4") (McKesson Corporation, Richmond, VA), and the surgical incision was closed in two layers. The rostral 3 cm of the incision was left open to allow drainage and removal of the gauze packing the day following surgery. The surgical site was bandaged with 3-inch Elastic tape (Elastikon) (Johnson and Johnson, New Brunswick, NJ) and gauze (McKesson Medi-Pak Performance, 4" × 4") (McKesson Corporation, Richmond, VA).

The day after surgery the patient had decreased appetite and water intake, which was suspected to be due to postoperative inflammation and mild pain. This resolved within 12 hours. The horse was discharged from the hospital 3 days after surgery with instructions of skin sutures removal 14 days postoperatively.

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